

Work Order ID 149639

Tuesday, July 26, 2016 10:20:27 AM

149639

Page 1

Item ID: D2281

Accept

N900040100Setup Start ***NS1***

Revision ID:

Stop ***NS2***

Item Name: Jack Saddle

Start Date: 8/9/2016 Start Qty: 40.00

40 50 SH

Cust Item ID:

Required Date: 8/16/2016 Req'd Qty: 40.00

40 50

Customer:

Reference:

Approvals:

Process Plan:

DAS
21
9-89

Date:

JUL 27 2016

Tooling:

Date:

Run Start ***NR1***

QC:

Date:

SPC (Y/N):

Date:

Stop ***NR2***Sequence ID/
Work Center IDOperation
DescriptionSet Up/
Run Hours

Tool ID

Tool #

Plan
CodeAccept
QtyReject
QtyReject
NumberInsp.
Stamp

Draw Nbr

Revision Nbr

D2281

Rev G

100

0.00

100

FLOW WATER JET

Waterjet

Memo

1.66

FLOW CNC Waterjet

1-Cut as per Dwg D2281 Dwg Rev: 6 Prog Rev: 6 2-
Deburr if necessary

50

110

QC2- Inspect parts off machine FAI/FAIB

0.00

110

QC

Memo

0.07

Quality Control

50

PR 2016/08/17

120

QC8- Inspect parts - second check

0.00

120

QC

Memo

0.13

Quality Control

50

DAS
38
9-89

AUG 18 2016

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date :		Step #:		QTY Effective :				MRB (QSI042) Approval Completed By Lead hand / Supervisor Approval Verification QC / QA Coordinator Approval	
Description Work Order Deviation				Disposition					
Root Cause Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐ No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐		FAULT CATEGORY Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐ Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐ Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Mislabeled ☐ Fit/Function ☐ Misaligned/off center ☐ Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐							
		OTHER : ☐							

1 49639

Tuesday, July 26, 2016 10:20:27 AM

N900040100

Setup Start *NS1*

Stop ***NS2***

Cust Item ID:

Start Date: 8/9/2016 **Start Qty:** 40.00

40

Customer:

Required Date: 8/16/2016 **Req'd Qty:** 40.00

40

Reference:

Run Start *NR1*

Approvals: **Process Plan:** _____ **Date:** _____ **Tooling:** _____ **Date:** _____

Stop ***NR2***

QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

**Insp.
Stamp**

0.00

130

Small Fab

0.55

Small Fab

Memo

Small Fab

Deburr

0.03

1 40

NC BRAKE

0.27

Brake NC

Memo

Brake NC

Form as per D2281 using D2281-T2

0.00

150

QC5- Inspect part completeness to step on W/O

0.13

QC

Memo

Quality Control

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date :		Step #:		QTY Effective :				MRB (QSI042) Approval	
Description Work Order Deviation				Disposition				Completed By	
								Lead hand / Supervisor Approval Verification	
								QC / QA Coordinator Approval	
Root Cause		FAULT CATEGORY							
Environment ☐	No Re-verification ☐	Pressure/Forced ☐	Temperature/Cure ☐	Power Loss/Surge ☐	Positioned Wrong ☐				
Design ☐	Operator ☐	Bending ☐	Set-up ☐	Folio/Program ☐	Outside Dimensions ☐				
Doc/Data ☐	Offset/Setup ☐	Centre Not Concentric ☐	BOM/Route ☐	Grain ☐	Over/Under tolerance ☐				
Equip/Tooling ☐	Supplier ☐	Cracks ☐	Broken/Damage/Defect ☐	Weld ☐	Part Incorrect ☐				
Handling/Pre ☐	Training ☐	Crimp/Kink/Ripple/Wave ☐	Inspection Incomplete/Unqualified ☐	Wrong Stock Pulled ☐	Part Lost/Missing ☐				
Material ☐	Use for Testing ☐	Cuffs ☐	Contamination ☐	Out of Sequence ☐	Part Moved ☐				
Internal Transport ☐	Poor Information ☐	Crushing ☐	Countersink ☐	Off-set ☐	Drawing ☐				
Tribal Knowledge ☐	Rushing ☐	Heat Treat ☐	Cut Too Short ☐	Mislabeled ☐	Finish ☐				
LOA ☐	Product Improvement ☐	Wave/Twist in Tube ☐	Instructions Incomplete/Unclear ☐	Fit/Function ☐	Misread ☐				
Substation ☐	Process Improvement ☐	Marks/Chatter ☐	Drill Holes ☐	Misaligned/off center ☐	Turning Sequence ☐				
Past Expiry Date ☐	Manufacturing Process ☐	OTHER :							
Misidentified ☐	Past Due ☐								

Work Order ID 149639

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149639

Page 3

Item ID: D2281

Accept

N900040100Setup Start ***NS1***

Revision ID:

Stop ***NS2***

Item Name: Jack Saddle

Start Date: 8/9/2016 Start Qty: 40.00

40

Cust Item ID:

Required Date: 8/16/2016 Req'd Qty: 40.00

40

Customer:

Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____

Run Start ***NR1***

QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Stop ***NR2***Sequence ID/
Work Center IDOperation
DescriptionSet Up/
Run Hours

Tool ID

Tool #

Plan
CodeAccept
QtyReject
QtyReject
NumberInsp.
Stamp

160

Identify as per dwg & Stock Location: _____

0.00

160

Packaging

Packaging

Memo

LOCATION : WA001

0.07 DAS
6
9-89

AUG 24 2016

170

QC21- Final Inspection - Work Order Release

0.00

170

QC

Quality Control

Memo

0.67

DAS
21
9-89

AUG 25 2016

DQA: _____ Date: _____

**WORK ORDER NON-CONFORMANCE / UPDATE**

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date :		Step #:		QTY Effective :			MRB (QSI042) Approval		
Description Work Order Deviation				Disposition				Completed By Lead hand / Supervisor Approval Verification QC / QA Coordinator Approval	
Root Cause		FAULT CATEGORY							
Environment ☐	No Re-verification ☐	Pressure/Forced ☐	Temperature/Cure ☐	Power Loss/Surge ☐	Positioned Wrong ☐				
Design ☐	Operator ☐	Bending ☐	Set-up ☐	Folio/Program ☐	Outside Dimensions ☐				
Doc/Data ☐	Offset/Setup ☐	Centre Not Concentric ☐	BOM/Route ☐	Grain ☐	Over/Under tolerance ☐				
Equip/Tooling ☐	Supplier ☐	Cracks ☐	Broken/Damage/Defect ☐	Weld ☐	Part Incorrect ☐				
Handling/Pre ☐	Training ☐	Crimp/Kink/Ripple/Wave ☐	Inspection Incomplete/Unqualified ☐	Wrong Stock Pulled ☐	Part Lost/Missing ☐				
Material ☐	Use for Testing ☐	Cuffs ☐	Contamination ☐	Out of Sequence ☐	Part Moved ☐				
Internal Transport ☐	Poor Information ☐	Crushing ☐	Countersink ☐	Off-set ☐	Drawing ☐				
Tribal Knowledge ☐	Rushing ☐	Heat Treat ☐	Cut Too Short ☐	Mislabeled ☐	Finish ☐				
LOA ☐	Product Improvement ☐	Wave/Twist in Tube ☐	Instructions Incomplete/Unclear ☐	Fit/Function ☐	Misread ☐				
Substation ☐	Process Improvement ☐	Marks/Chatter ☐	Drill Holes ☐	Misaligned/off center ☐	Turning Sequence ☐				
Past Expiry Date ☐	Manufacturing Process ☐								
Misidentified ☐	Past Due ☐	OTHER :							

Picklist Print

Tuesday, July 26, 2016 10:20:27 AM

Page 1

Work Order ID: 149639

149639

Parent Item: D2281

D2281

Parent Item Name: Jack Saddle

Start Date: 8/9/2016

Required Date: 8/16/2016

Start Qty: 40.00

Required Qty: 40.00

Comments: IPP Rev:A Removed from 9 Digit 05-12-02 JLM
IPP: rev B 06.07.17 waterjet EC

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
---------------------------------	------------------------	---------------	-------------	---------------------	------------------	-----------------	--------------------	----------------	-------------	--------------	---------------	----------------	--------

M304S14GA		Purchased	No			100	sf	42.5158	0.125	5.263156			
-----------	--	-----------	----	--	--	-----	----	---------	-------	----------	--	--	--

M304S14GA

PR 2016/08/17

304SS sheet .080

Location

Loc Qty

Loc Code

MAT019

30.7

M129972

5.7

M135061

25

TPI

11.815791

M134604

11.815791

7.3

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐																																																											
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Misidentified ☐	Past Due ☐																																																														

DART AEROSPACE LTD		Work Order:	149639
Description: Jack Saddle		Part Number:	D2281
Inspection Dwg: D2281 Rev: G		Page 1 of 1	

FIRST ARTICLE INSPECTION CHECKLIST

☒ First Article ☐ Prototype

Drawing Dimension	Tolerance	Actual Dimension	Accept	Reject	Method of Inspection	Comments
4.468	+/-0.010	4.475	✓		Dc-02	
4.114	+/-0.010	4.115	✓			
2.933	+/-0.010	2.934	✓			
1.535	+/-0.010	1.540	✓			
0.354	+/-0.010	0.357	✓			
0.354	+/-0.010	0.354	✓			
0.604	+/-0.010	0.606	✓			
2.000	+/-0.010	2.001	✓			
3.396	+/-0.010	3.396	✓			
3.646	+/-0.010	3.648	✓			
4.000	+/-0.010	4.008	✓			
1.525	+/-0.010	1.529	✓			
2.475	+/-0.010	2.478	✓			
Ø0.323	+0.006/-0.001	0.324	✓			
0.080	+/-0.010	0.073	✓			

Measured by: PR	Audited by: DAS 38 9-89	Prototype Approval:	N/A
Date: 2016/08/16	Date: AUG 18 2016	Date:	N/A

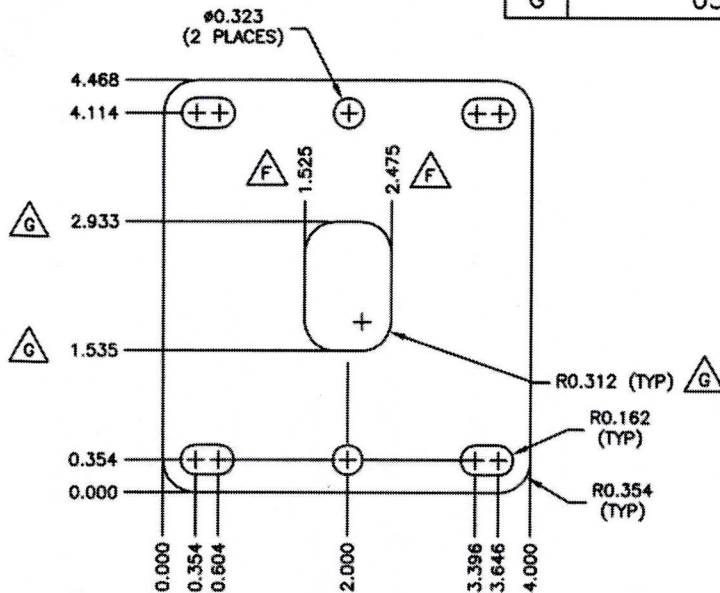
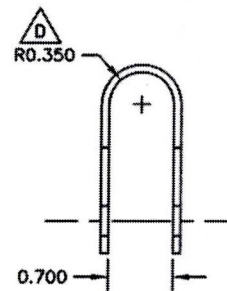
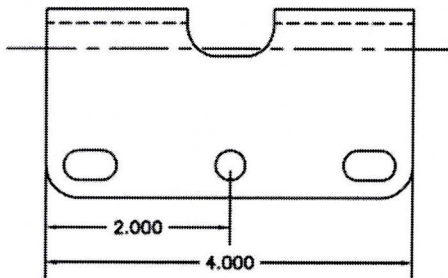
Rev	Date	Change	Revised by	Approved
A	06.09.08	New Issue	KJ/JLM	

DART

DESIGN BW	DRAWN BY <i>[Signature]</i>	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
CHECKED <i>[Signature]</i>	APPROVED <i>[Signature]</i>	DRAWING NO. D2281	REV. G SHEET 1 OF 1
DATE 05.06.07	TITLE JACK SADDLE		SCALE 1:2
A	94.10.14	NEW ISSUE	
B	94.10.18	DIMENSION WAS 2.878	
C	94.11.04	ADD TOOLING NOTCH	
D	98.03.27	R0.350 WAS R0.280	
E	04.11.18	REMOVE TOOLING NOTCHES	
F	05.03.16	REDESIGN FLAT PATTERN	
G	05.06.07	REDESIGN FLAT PATTERN	

RELEASED

05/08/11

**FLAT LAYOUT**

SHOP COPY
RETURN TO
ENGINEERING
UNCONTROLLED COPY
SUBJECT TO AMENDMENT
WITHOUT NOTICE
WORK ORDER
NO. 149639 MJS
16-07-27

D2281 JACK SADDLE

- 1) MATERIAL: 304/316 SS, 0.080 THICK (REF DART SPEC. M304S14GA)
- 2) FINISH: NONE
- 3) BREAK ALL SHARP EDGES 0.005 TO 0.010
- 4) ALL DIMENSIONS ARE IN INCHES
- 5) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED

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